Task Force “Toxic Gases” progress update

25th GTR EVS meeting

29 November – 01 December 2022

Meeting #2

- **Date and time:** 29th of June 2022, 13.00-14.30 CEST
- **Venue**: online, Webex
- **Participants**: Australia, Canada, China, European Union represented by the Joint Research Centre of the European Commission, Japan, Korea, United States of America, OICA members, CLEPA members, test houses and laboratories - total about 40 participants
- **Discussed:**
  - Australia, China, Japan, JRC/EC and Stellantis provided their views and positions in reply to the Round Table questions
  - Canada, Korea and USA aim at giving their feedback at a later stage

Current status

- Round Table question #1 “Can current approach - *"…visual inspection without disassembling any part of the Tested-Device”* - adopted in Phase 1 of the EVS GTR as a method for verification of the occurrence of electrolyte leakage still be considered suitable/adequate?”

  Australia, China, Japan and Stellantis are in favour of keeping visual inspection as a verification method for electrolyte leakage. JRC/EC find visual inspection for electrolyte leakage verification not entirely robust and would like to continue research on Li ion chemosensors.

Current status

- Round Table question #2 “Can current approach - *"…visual inspection without disassembling any part of the Tested-Device”* - adopted in Phase 1 of the EVS GTR as a method for verification of the occurrence of venting still be considered suitable/adequate?”

Australia and Japan consider visual inspection as an adequate verification technique for venting. Stellantis agreed and mentioned that a little bit of smoke in the car cabin may be acceptable in thermal runaway propagation test, where AEGL-2 10 min criteria are suggested as threshold for toxicity evaluation.

China pointed out that visual inspection without disassembling any part of the Tested-Device can be considered an adequate method for venting verification for thermal runaway propagation test. However, in other tests, such as thermal shock and overcharge protection, there may be only a small amount of vented gas, which main components are invisible such as CO, CO_2 and H_2. Therefore, China believe that the verification method needs further discussion.

JRC/EC agreed that visual inspection is adequate for vigorous venting with large amount of smoke. It is less suitable for detection of initial stages of venting with small amount of gas/smoke released, but hazards of such venting: a) toxicity and flammability, b) change of the gas properties in the pack leading to HV discharge need to be carefully considered.

Current status

- Round Table question #3 “If your answer is “NO” to Q1 and/or Q2, please elaborate and propose alternative verification method.”

  China mentioned that by arranging CO, H_2 and other combustible gas sensors at appropriate positions, the venting can be better verified than visual inspection in some of the tests. However, the detailed test conditions need further discussion and technical research. China hope to establish a method in Phase III.

Next steps

- Canada, Korea and USA please provide your positions on the Round Table questions
- India?
- OICA?
- …

- TF-TG meeting #2 materials - presentation slides and meeting minutes are made available to all IWG experts

- Next meeting: to be agreed

Thank you

European Commission